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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,182	06/16/2006	Sohci Nishida	5404/156	9105
757 7590 12/02/2008 BRINKS HOFER GILSON & LIONE P.O. BOX 10395 CHICAGO, IL 60610				
EXAMINER				
KRYLOVA, IRINA				
ART UNIT		PAPER NUMBER		
4131				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/583,182

**Applicant(s)**

NISHIDA ET AL.

**Examiner**

IRINA KRYLOVA

**Art Unit**

4131

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SE-08)  
Paper No(s)/Mail Date 03/25/08; 06/16/06
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims 1-7, 9-18 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5, 8-14 of copending Application No.11/632,604. Although the conflicting claims are not identical, they are not patentably distinct from each other because the shrinkable acrylic fiber of the copending application is a species of the presently claimed genus, and species anticipates a genus. Anticipation is the ultimate in obviousness. Both applications specify the polymers as being incompatible. This is a provisional obviousness-type

double patenting rejection because the conflicting claims have not in fact been patented.

2. Claims 1-7, 9-18 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 20 of copending Application No. 11/667,633. Although the conflicting claims are not identical, they are not patentably distinct from each other because both applications have the same fiber compositions. The ranges of copolymers A and B are either encompass each other or significantly overlap and overlapping ranges have been held to establish prima facie obviousness. Since the composition of the copending application and the presently claimed composition are the same, one of ordinary skill in the art would expect that the polymers of the '604 application are "incompatible".
3. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

#### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 8 recites a process for producing acrylic shrinkable fiber of claims 1 or 2 comprising carrying out relaxation treatment at 1-20%. It is not clear on what material and on which step the relaxation treatment is provided.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-7, 9-18 are rejected under 35 U.S.C. 102(b) as being anticipated by **Ono et al** in JP 02182916.

9. Ono et al discloses a dyeable acrylic composite fiber obtained by jointing components A and B, wherein component A comprises:

- 1) more than 40%wt. of acrylonitrile;
- 2) 20-60%wt. halogen-containing monomer
- 3) sulphonic acid-containing monomer;

component B comprises:

- 1) 30-75%wt. of acrylonitrile;
- 2) 20-70%wt of vinylic monomer;
- 3) 0-10%wt of sulphonic acid-containing monomer (Abstract).

The component A is used in amount of 60-95% wt (Abstract).

Vinylic monomer comprises acrylic esters (page 8).

Though the components A and B are not specified as incompatible with each other, since the composition of **Ono et al** is the same as the composition of the instant invention, incompatibility is assumed to be an inherent characteristic of the composition of **Ono et al**. "Products of identical chemical composition can not have mutually exclusive properties" (See MPEP 2112.01).

In addition, **Couchoud** in US 3,963,790 discloses similar blend of two acrylonitrile copolymers and specifies the components of that composition as being incompatible (see col. 3, lines 49-50 in **Couchoud**). Since the two copolymers are incompatible, when dissolved in a common solvent, they produce two phases (col. 3, lines 1-5 in **Couchoud**). Spinning of the solution of two incompatible polymers provides phase separation into particles having a size of 1-3 microns (see col. 3, lines 7-12 in **Couchoud**). (A secondary reference may be employed to show that a particular characteristic is inherent. See MPEP 2131.01 III.

As to instant claims 3-7, 9-18, relative saturation value of the fiber and shrinkage after being dyed are not recited in **Ono et al**. However, since the composition of **Ono et al** is the same as composition of the instant invention, relative saturation value and shrinkage are assumed to be inherent characteristic of the fiber. "Products of identical chemical composition can not have mutually exclusive properties" (See MPEP 2112.01).

10. Claims 1-7, 9-18 rejected under 35 U.S.C. 102(b) as being anticipated by **Ueno et al** in JP 06158422.

**Ueno et al** discloses a high-shrinkage acrylic fiber produced from a polymer composition comprising 60-95 parts by wt of a polymer (I) and 5-40%wt of a polymer (II), wherein the polymer (I) comprises:

- 1) equal or more than 40%wt of acrylonitrile;
- 2) 20-54%wt of halogen-containing monomer;
- 3) 0.5-6%wt of sulfonic acid-containing monomer;

the polymer (II) comprises:

- 1) 20-60%wt of acrylonitrile;
- 2) 35-78%wt of (meth)acrylic acid ester;
- 3) 2-5%wt of sulfonic acid-containing monomer (Abstract).

Though the polymers (I) and (II) are not specified as incompatible with each other, since the composition of **Ueno et al** is the same as the composition of the instant invention, incompatibility is assumed to be an inherent characteristic.

"Products of identical chemical composition can not have mutually exclusive properties" (See MPEP 2112.01).

In addition, **Couchoud** in US 3,963,790 discloses similar blend of two acrylonitrile copolymers and specifies the components of that composition as being incompatible (see col. 3, lines 49-50 in **Couchoud**). Since the two copolymers are incompatible, when dissolved in a common solvent, they produce two phases (col. 3, lines 1-5 in

**Couchoud**). Spinning of the solution of two incompatible polymers provides phase separation into particles having a size of 1-3 microns (see col. 3, lines 7-12 in **Couchoud**).

As to claims 3-7, 9-18, relative saturation value of the fiber and shrinkage after being dyed are not recited in **Ueno et al**. However, since the composition of **Ueno et al** is the same as composition of the instant invention, relative saturation value and shrinkage are assumed to be inherent characteristic of the fiber. "Products of identical chemical composition can not have mutually exclusive properties" (See MPEP 2112.01).

### ***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Ueno et al** in JP 06158422 as applied to claims 1-7, 9-18 above, and further in view of **Sudo et al** in US 2002/0122937.

**Ueno et al** discloses a high-shrinkage acrylic fiber produced from a polymer composition comprising 60-95 parts by wt of a polymer (I) and 5-40%wt of a polymer (II), wherein the polymer (I) comprises:

- 1) equal or more than 40%wt of acrylonitrile;
- 2) 20-54%wt of halogen-containing monomer;



3) 0.5-6%wt of sulfonic acid-containing monomer;

the polymer (II) comprises:

1) 20-60%wt of acrylonitrile;

2) 35-78%wt of (meth)acrylic acid ester;

3) 2-5%wt of sulfonic acid-containing monomer (Abstract).

**Ueno et al** fails to teach a process for producing acrylic fibers comprising carrying out relaxation treatment at 1-20%.

**Sudo et al** discloses a process for producing shrinkable fiber by spinning a copolymer of acrylonitrile and copolymerizable monomers comprising a halogen-containing vinyl monomer, acrylic esters, sulfonic acid-containing monomers, followed by dry treatment (Abstract, [0007]). During the heat treatment, 5-15% relaxation is carried out ([0011]).

Since 1) both **Ueno et al** and **Sudo et al** disclose high shrinkable acrylonitrile copolymer fibers, produced by spinning and further heat treatment of the fiber;  
2) **Sudo et al** specifies that by regulating temperature and relaxation during heat treatment, shrinkage of the fiber may be controlled; and to avoid random shrinkage, heat treatment of the acrylonitrile copolymer fiber should be carried out with 5-15% relaxation (see [0011] in Sudo et al);

therefore it would be obvious to one skilled in the art at the time of the invention has been made to use the process conditions of **Sudo et al** to produce fiber of **Ueno et al**, so that fiber with controlled shrinkage could be produced.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IRINA KRYLOVA whose telephone number is (571)270-7349. The examiner can normally be reached on Monday-Friday 7:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571)272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/  
Supervisory Patent Examiner, Art Unit 4131

/I. K./  
Examiner, Art Unit 4131